

Response:

1. **Claims 5, 6, and 9 are rejected under 35 U.S.C. § 112. Claim 5 recites the limitation “said acute angles “ in line 1, there is insufficient antecedent basis....** The applicant respectfully requests that the examiner amend “acute angles “ to “acute angled”, and insert “bends, attached to the top and bottom of said offset member,” after “said acute angled”. This more clearly shows that the acute angles in claims 3 and 4 are bends at the top and bottom of the offset member.
2. **Claim 6 recites the limitation “said unequal bends” in line 1, there is insufficient antecedent basis...** The applicant respectfully requests that the examiner amend “The connector of claim 1” to “The connector of claim 5”, and on line 2, please change “having” to “forming”. This shows that the unequal bends are acute angled, and then form the base member and top web away from each other, and in different planes.
- 3a. **Claim 9 recites the limitation “said rafter tabs” in line 2, there is insufficient antecedent basis...** , The applicant respectfully requests that the examiner amend claim 7, line 3 by adding “, and divides said top web into left and right blocking webs.” after “acute angle bend”. This shows how the cut lines divide the top web into blocking webs for later reference on claim 9.
- 3b. The applicant respectfully requests that the examiner amend claim 8, line 1, by deleting “having”, and change line 2 by changing “formed” to “forming”. “This shows that the cut lines form rafter tabs off of the blocking webs.
- 3c. The applicant respectfully requests that the examiner amend claim 9, line 1, by changing “The connector of claim 1” to “The connector of claim 8”, this way it is clear that the rafter tabs were formed in claim 8. Also, on claim 9, line 2, change “blocking webs” to “said blocking webs”. The blocking webs were formed previously in the above amended claim 7.
- 4a. **Claims 1 through 6 are rejected under 35 U.S.C. § 102(b) as being anticipated by**

Netek, U.S. Patent No. 5,257,483. In regards to claim 1, Netek discloses a one-piece retrofit hurricane and earthquake connector comprising a base member and angled top web connected by a double angled offset member. Netek's invention is interesting, but it does not provide any protection against earthquakes. Seismic forces can rack the building laterally, and Netek's thin invention is fastened so far away from the roof/wall connection that it provides no resistance against sideways motion. Netek's description mentions high winds and hurricanes, but there is no mention or even suggestion of preventing seismic damage. Therefore, Netek's invention is not a hurricane *and* earthquake connector.

- 4b. Netek's '483 is "a temporary device, to be installed when the threat of damaging conditions are prevalent and then removed once the threat has ended.", as stated in Netek's column 1, lines 30-35. The applicant's invention is a permanent device. The applicant respectfully requests that the examiner amend claim 1 by adding the word "permanent" in line 1, making the line "A permanent one-piece retrofit hurricane and earthquake connector...". Since Netek's device is not an earthquake connector and is not permanent, the applicant's claim 1 is physically different and therefore reads over Netek.
- 4c. Netek's FIGS. 2 and 3 show the upper end 9 of his temporary device tying into the end of the roof rafter. Except for the fascia board that is often attached to prevent water from reaching this vulnerable area of the rafter, no carpenter would ever attach a structural member to this weak end of the rafter. To make it even weaker, Netek's FIGS. 1 and 4 show five nail holes in a row. One or two nails in the end of the rafter would be enough to split and severely weaken the rafter. The applicant's invention has rafter tabs that tie into two wide, opposite, and strong sides of the rafter, and cradles the rafter on three sides, making the applicant's invention significantly stronger, and physically different than Netek's temporary device. The applicant respectfully requests that the examiner amend claim 1 by adding "with rafter tabs" after "and angled top web" on line 3. Netek's temporary device does not have rafter tabs and is therefore physically different than the applicant's amended claim 1.

- 5a. **In regards to claim 2, the base member having a generally flat, generally rectangular shape, with a plurality of nail holes as a means for easy attachment to the outside wall of an existing house (see Fig. 1).** Netek's temporary device has his lower end 10 connected low on the wall for quick attachment when a hurricane is coming. This makes for a prompt attachment, but is very weak, because of the far distance from the roof structural member. Buildings are subjected to many forces during wind storms, not just uplift. The rafter can still twist, the wall can still move laterally to the roof, and the top of the wall can still bow out. The applicant's invention has close proximity to the strongest part of the rafter and the strongest part of the wall, the top plate. The applicant respectfully requests that the examiner amend the following in claim 2, by adding the following to line 4, " , adjacent to a roof structural member." after "the outside wall of an existing house". The applicant's base member is adjacent to the roof rafter while Netek's temporary device has his lower member far away from the rafter.
- 5b. The applicants base member is generally horizontal while Netek's lower end is generally vertical. Netek's lower end is vertical in order to tie into the hidden wall stud. Netek's column 3, lines 10-26 describes the bolts to use, but doesn't describe how to find the stud that is hidden by sheathing. The applicant's base member attaches to the top plate which is always under the rafter. The applicant respectfully requests that the examiner amend claim 2 by adding the following to line 2, "long-horizontal" between "generally flat, generally" and "rectangular shape", making the line "generally flat, generally long-horizontal rectangular shape". Because Netek's device has the lower end far from the rafter and the length in the horizontal dimension, claim 2 now physically describes the applicant's invention over Netek's device.
6. **In regards to claim 3, the offset member having attachment to the base member by a first generally horizontal bend at an acute angle.** Netek's mid-section 11 is a long, thin member that has little strength. The applicant's offset member 6 is short, wide, and strong. The applicant respectfully requests that the examiner amend claim 3 by adding "short and wide" between "said" and "offset member" in line 1. The applicant's claimed short and wide offset-member is physically different than Netek's long, thin mid-section.

7. **In regards to claim 4, the offset member having attachment to said top web by a second generally horizontal bend at an acute angle.** The applicant's amended claim 1 now states that the top web has rafter tabs and amended claim 3 now states that the offset member is short and wide. The applicant respectfully requests that the examiner amend claim 4 by adding "short and wide" between "said" and "offset member" in line 1. The applicant's claimed short and wide offset-member is physically different than Netek's long, thin mid-section.
8. **In regards to claim 5, the acute angles having generally unequal bends in opposite directions as a means of offsetting the top web for avoiding frieze boards and blocking that stick out on a completed house.** Although Netek's temporary device does avoid frieze boards and blocking, it sticks out so far from the house it has to be temporary because people would hit their head on it. The applicant's invention was designed to avoid frieze boards and blocking by being adjacent to them and even tying into them for added strength. The applicant respectfully requests that the examiner amend claim 5 by changing line 2. Please delete "for avoiding" in front of "frieze boards" and add "adjacent to" in front of "frieze boards". This shows that the applicant's invention is next to the frieze boards and blocking, unlike Netek's temporary device which is far away.
9. **In regards to claim 6, the unequal bends and offset having the base member and the top web unparallel to each other as a means of forming a buttress, thereby preventing the outside wall from detaching from a house.** Netek's patent only describes how his temporary device supposedly prevents uplift and detachment of a roof from a wall when a windstorm is known to be prevalent. There is no mention of how his temporary device prevents the wall from detaching from the house. The only place where the roof and wall can become disconnected is at the top of the wall, where the applicant's invention is installed. The applicant's invention forms a buttress between the wide side of the rafter, the outside wall, and the underlying strongest part of the wall, the top plate. The applicant respectfully requests that the examiner amend claim 6 by adding "between the rafter, outside wall, and underlying top plate" after "buttress" on line 3. This shows that the buttress actually strengthens the connection between these structural members.

- 10a. **Claims 11 through 14 are rejected under 35 U.S.C. § 102(b) as being anticipated by Thompson U.S. Patent 6,094,880. In regards to claim 11, Thompson discloses a roof connector comprising a roof plate and bolts above a roof and attachment hole on a metal member and locking nuts below a roof.** The applicant originally wished to claim the retrofit hurricane-earthquake connector (claimed in claims 1-10) in combination with the roof connector, as the roof connector is much stronger when used with the hurricane-earthquake connector. When independent claim 1 is incorporated into independent claim 11, then claims 11 through 14 will read over Thompson's '880.
- 10b. The applicant respectfully requests that the examiner amend claim 11 by adding "A permanent, multiple-piece retrofit hurricane-earthquake connector for positively connecting the roof to the wall on a house comprising a base member and angled top web with rafter tabs, connected by a double angled offset member and" (paraphrased from claim 1) in front of "A roof connector" on line 1. Amended claim 11, and amended claims 12 through 14, now read over Thompson's '880.
- 11a. **Claim rejected under 35 U.S.C. § 103(a) as being unpatentable over Netek, as discussed above in view of Colonias, et al., U.S. Patent 5,109,646.** As discussed earlier, Netek's retrofit device is weak and temporary. Colonias' device is a strong and permanent connector, but can only be installed during construction, since it cannot be retrofit onto existing buildings with the roof on. Therefore, there is no suggestion that they can be combined in the manner suggested.
- 11b. Each cited reference is individually complete and functional in itself. Netek's apparatus could never be permanent and Colonias' connector could never be retrofit. There is no reason to use parts from, or add or substitute parts to, either reference.
- 11c. The references take mutually exclusive paths and reach different solutions. Even if Netek's temporary device had a vertical cut to form very thin rafter tabs to cradle the rafter instead of going into the rafter's weak end, it still couldn't prevent lateral movement. If rafter tabs were added to Netek's temporary device, the flat pattern layout would be completely

different than the simple rectangle shown in his FIG. 4. And it still would hold the rafter by the end, where nailing is most likely to split the rafter. Since Colonias' connector cradles the top plate on three sides it would be impossible for a person having ordinary skill in the art to make it somehow into a retrofit connector. Colonias' FIGS. 4 and 5 show two of their connectors on two sides of a rafter, but even with two connectors they still don't cradle the rafter like the applicant's invention.

- 11d. The applicant's paragraph 3a amended claim 7 by adding the left and right blocking webs. Amended claim 7 reads over Netek and Colonias.
12. **In regards to claim 8, Colonias teaches the cut lines having formed rafter tabs that are generally vertical and bent at generally right angles and having a plurality of nailholes as a means of attachment to the sides of a roof rafter.** According to Colonias' flat pattern layout, shown on FIGS. 9 and 10, there are no cut lines forming rafter tabs. There are only bends that form legs 15 and 16, that cradle the top plate on their FIG. 1. Colonias' FIGS. 4 and 5 show two connectors on either side of a rafter. It would therefore not be likely for someone skilled in the art to make one connector that could cradle a rafter on two or more sides. Claim 8, line 4, states "...attachment to the sides of a roof rafter." meaning that the applicant's invention attaches to multiple sides of a rafter and therefore reads over Colonias.
13. **In regards to claim 9, Colonias teaches the top web having blocking webs approximately perpendicular to the rafter tabs and having a plurality of nail holes as a means of attachment onto said frieze boards and blocking on a completed house.** Colonias' blocking webs are parallel to the rafter webs, not perpendicular, so the applicant's claim 9 reads over Colonias.
14. **In regards to claim 10, the combination of Netek in view of Colonias teaches base plate, rafter tabs, and blocking webs attached to an existing house by a plurality of nail holes, as a means for avoiding frieze boards and securing together an outside wall, an underlying top plate, the rafter, and frieze boards and blocking thereby**

preventing wind and shaking damage from a hurricane and earthquake. Netek's temporary device may contain an equivalent base plate and nail holes, it does avoid frieze boards, and it may prevent wind damage. Colonias' connector may contain an equivalent base plate and rafter tabs, it may avoid frieze boards, it appears to secure a rafter and top plate, and it may prevent hurricane and earthquake damage. But even together, they don't have blocking webs, and they don't secure the frieze boards to the other structural members.

15. **The enclosed amended claims read over the cited references.** A clean copy of the amended claims are enclosed for the examiner's convenience. Accordingly, the applicant submits that this application is now in full condition for allowance, which action applicant respectfully solicits. If the examiner agrees but does not feel that the present claims are technically adequate, applicant respectfully requests that the examiner write acceptable claims pursuant to MPEP 707.07(j).

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Signature: Thomas C. Thompson

Claims (Clean Copy)

I claim:

- Sub A* *102*
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1. A permanent one-piece retrofit hurricane and earthquake connector (for positively connecting the roof to the wall on a house) comprising a base member and angled top web with rafter tabs, connected by a double angled offset member.
arguments moot
 2. The connector of claim 1 wherein said base member having a generally flat, generally long-horizontal rectangular shape, with a plurality of nail holes as a means for easy attachment to the outside wall of an existing house, adjacent to a roof structural member.
 3. The connector of claim 1 wherein said short and wide offset member having attachment to said base member by a first generally horizontal bend at an acute angle.
 4. The connector of claim 1 wherein said short and wide offset member having attachment to said top web by a second generally horizontal bend at an acute angle.
 5. The connector of claim 1 wherein said acute angled bends, attached to the top and bottom of said offset member, having generally unequal bends in opposite directions as a means of offsetting said top web adjacent to frieze boards and blocking that stick out on a completed house.
 6. The connector of claim 5 wherein said unequal bends and offset forming said base member and said top web unparallel to each other as a means of forming a buttress between the rafter, outside wall, and underlying top plate, thereby preventing said outside wall from detaching from a house.

7. The connector of claim 1 wherein said top web having a generally vertical cut line in the approximate center and at generally right angles near said second acute angle bend, and divides said top web into left and right blocking webs.
8. The connector of claim 1 wherein said cut lines forming rafter tabs that are generally vertical and bent at generally right angles and having a plurality of nail holes as a means of attachment to the sides of a roof rafter.
9. The connector of claim 8 wherein said top web having said blocking webs approximately perpendicular to said rafter tabs and having a plurality of nail holes as a means of attachment onto said frieze boards and blocking on a completed house.
10. The connector of claim 1 wherein said base plate, said rafter tabs, and said blocking webs attached to an existing house by a plurality of nail holes, as a means for avoiding frieze boards and securing together said outside wall, an underlying top plate, said rafter, and said frieze boards and blocking thereby preventing wind and shaking damage from a hurricane and earthquake.
11. A permanent, multiple-piece retrofit hurricane-earthquake connector for positively connecting the roof to the wall on a house comprising a base member and angled top web with rafter tabs, connected by a double angled offset member and a roof connector comprising a roof plate and bolts, above a roof, and attachment hole on a metal member and locking nuts below a roof.
12. The connector of claim 11 wherein said roof plate having predetermined area and shape as a means for conforming to

A,
(cont.)

the outside surface of a roof.

13. The connector of claim 11 wherein said roof plate having a plurality of oblong bolt holes spaced greater than the width of a roof rafter as a means for straddling a rafter underlying said outside surface of said roof, and having form for the placement of said bolts into said oblong holes on either side of said rafter.

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(consolid)
14. The connector of claim 11 wherein said metal member below a roof having prior attachment to structural members of a house and a bolt hole generally parallel to said roof as a means for accepting said bolt from said roof and having connectivity with said nut as a means for securing said roof to said structural members of a house.